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Docket: 3816.04-D3
January 31, 2007 (10:27am)

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Date: 31 January 2007

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: James E. Boyle et al.

Attorneys Docket: 3816.04-D3

Serial No.: 10/652,677

Confirmation No.: 2556

Filed: August 29, 2003

Art Unit No.: 3726

Examiner: E. Omgba

For: "SILICON TOWER WITH INCLINED SUPPORT TEETH"

Commissioner for Patents
Alexandria, VA 22313-1450

REPLY BRIEF UNDER 37 CFR §41.41

Sir:

This Reply Appeal Brief is filed in support of the appeal of the above application dated December 27, 2005 and in response to the Examiner's Answer dated December 4, 2006.

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REMARKS

The Examiner's rebuttal of the argument that Hewitt is non-analogous art relies on his conclusion that the problem being solved by the inventors is a minimization of the area of contact between the supports and the work piece. However, the illustrated embodiments (FIGS. 4 – 6) all include a small but significantly sized polished horizontal portion 36 at the tooth end 34 (page 7, lines 21-22). Clearly the inventors are not attempting to minimize the contact area. A crucial effect in high-temperature processing is the occurrence of slip. See Beyaert, col. 1, line 65. The inventors concluded, contrary to Beyaert's solution, that slip is reduced by somewhat increasing the size of the support area from point contact to that of the horizontal portion 36 at the end of the inclined teeth 32 so that the weight of the wafer is spread over the area of the horizontal portion 36 to thus reduce the maximum pressure exerted on the wafer at any support point and to reduce scratching. Nonetheless, the horizontal portion 36 should be kept small to reduce thermal shadowing (page 7, lines 23, 24). As a result, the inventors are not trying to minimize the support area or to provide a segmental or punctual surface, as argued by the examiner, but are trying to easily machine small but finite horizontal support areas. Hewitt's problem is reducing glazing defects. The inventors' problem is two fold, reduce thermal shadowing and reduce slip in the wafer. Providing point or segmental contact solves Hewitt's problem but does not adequately solve the inventors' problem.

The horizontally extending support areas are specifically recited in claims 4, 10, 14, 24 and claims dependent therefrom.

As to the examiner's dismissal of the case of machining afforded by the inclined teeth with parallel side because the product claims do not claim the machining, nonetheless the non-obviousness of the claimed structure may be judged by the advantages and economy of fabricating the claimed structure as well as its eventual use. A structure must be fabricated and its form follows from its fabrication process. The structures of the prior art suffer from the necessity of complex fabrication.

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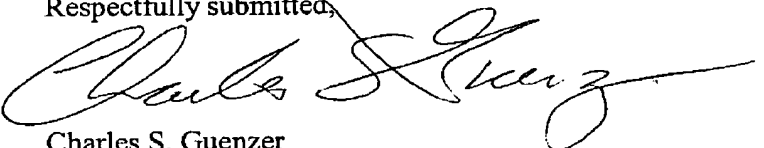
CONCLUSION

Accordingly, base claims 1, 10, 17, and 24 and all claims dependent therefrom should be held allowable. Dependent claims 4, 7, and 13 should be held additionally allowable. Dependent claim 16 should also be allowable because of the lack of a detailed rejection.

The Board is respectfully requested to instruct the Examiner to allow these claims.

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Respectfully submitted,


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